

National Institute on Deafness and Other Communication Disorders - HN3

Conducts, fosters, and supports research and research training on the causes, prevention, diagnosis, and treatment of deafness and other communication disorders through: (a) intramural, collaborative, and field research in its own laboratories, branches, and clinics, and through contracts; (b) research grants to scientific institutions and to individuals; (c) individual and institutional research training awards to increase trained professional research personnel in the fields of deafness and other communication disorders; and (d) cooperation with various agencies in collecting and disseminating educational and informational material related to deafness and other communication disorders.

Office of the Director - HN31

(1) Plans and directs the Institute's programs; (2) formulates policies and provides program planning and appraisal services for the Institute; and (3) provides administrative and scientific and health reporting services.

Office of Administration - HN31-2

(1) Advises the Director, Division Directors, and other key officials on administrative policies and practices; (2) plans, coordinates, and directs management functions of the Institute, including budget, financial management, personnel, general administration, management analysis, program planning, scientific information, and information resources management; (3) interprets, analyzes, and implements any new legislation affecting administrative orders and new concepts affecting the overall mission of the Institute; and (4) manages sign language interpretation services provided by NIDCD for staff and other outside organizations.

Administrative Management Branch - HN31-22

(1) Provides comprehensive administrative and management support to the NIDCD; (2) manages the personnel, procurement, contract funding, financial management, and other administrative functions as necessary to ensure the efficient and effective implementation of programs within the divisions and branches; (3) provides advice and assistance to the professional and non-professional staff relative to legal and regulatory aspects required to accomplish these functions; (4) analyzes effects of changes in general administrative policies and practices by organizational echelons above the Institute; and (5) develops policies on administrative management and prepares and issues procedures and guidelines for implementation of these policies

Financial Management Branch - HN31-23

(1) Serves as the Institute focal point on financial management aspects of the planning, formulation, execution, and evaluation of the Institute's programs; (2) collaborates with the Chief, Program Planning and Health Reports Branch, in the development and coordination of the Institute's short- and long-term planning efforts with the budget process; (3) formulates and monitors the Institute's financial management program and establishes systems for effective control of funds utilized through the research management, intramural research, grants, and contracts processes; (4) compiles and prepares the Institute budget; (5) devises or oversees development of accounting systems that are beneficial to the Institute in obtaining data for management decisions while remaining compatible with the central NIH budget and accounting systems; (6) develops materials for OMB and congressional appropriation hearings and briefs witnesses in defense of the budget; (7) serves as the focal point for the monitoring and clearance of budgetary and fiscal data as the result of congressional and public inquiries; and (8) maintains control over the allotment of funds and utilization of employment positions of the Institute.

Office of Health Communication and Public Liaison - HN31-25

(1) Advises the Director and members of the Institute's scientific and administrative staff on an integrated program to disseminate the goals and findings of research programs and clinical advances in the public, the media, the biomedical community, and private health organizations; (2) provides responses to inquiries from the public, media, White House, Department, and members of Congress; (3) prepares and produces publications, exhibits, displays, reports, articles, speeches, etc., on Institute research, activities, programs, structure, and function, including coordination of publications, audiovisual, graphic, and media clearance and production as necessary for the Institute; (4) works with voluntary and professional health agencies to exchange information and plan cooperative activities related to clinical and research information; (5) manages and directs the operation and long-range plans of the legislatively mandated National Deafness and Other Communication Disorders Information Clearinghouse; (6) maintains liaison with the NIH Associate Director for Communications and serves, on request, as the information source for public affairs matters relating to the Institute's programs; (7) manages and coordinates with NIDCD staff the Institute's homepage; and (8) develops NIDCD science education activities.

Information Systems Management Branch HN31-26

(1) Advises IC management on the strategic direction and management of the NIDCD Information Technology (IT) program. (2) Provides leadership for the Implementation of IT technologies to create the information foundation for efficient and effective scientific research, business operations and management of NIDCD. (3) Designs, implements, maintains, and coordinates the Institute's information and data systems used to collect, compile, and retrieve Information in order to meet a variety of specific and general operational needs of Institute staff. (4) Provides systems that support efficient and effective workflow processes and allow rapid user-friendly access to reliable data necessary to foster information exchange and Increase knowledge amongst users. (5) Maintains contact with Institute management and staff to ensure that their data processing/storage/reporting requirements are met. (6) Serves as the Institute focal point for Information resources management activities within NIH, HHS, and the community to assure awareness of any new information technology developments. (7) Provides a secure, dependable and accessible technical environment that supports the Increasing information technology requirements related to improving clinical and administrative systems. (8) Maintains the highest levels of customer satisfaction with the systems and applications provided by ISMB. (9) Ensures implementation and compliance of all NIH, HHS and OMB policies and procedures governing IT

Data Management Section - HN31-262

(1) Prepares special data reports and other computer-prepared documents to meet Institute needs. (2) Develops, designs, implements, and maintains NIDCD information systems. (3) Advises and assists NIDCD staff in their use of OER's central grants data processing systems. (4) Provides business re-engineering analyses and solution development. (5) Supports document preparation of the NIDCD Council meetings. (6) Manages and maintains the data necessary to generate reports on the NIDCD research portfolio of grants and research projects.

Network Management Section - HN31-263

(1) Develops, implements, operates and maintains the NIDCD network, network infrastructure; internet and intranet services; and security of all IT systems. (2) Provides expert advice/guidance on the development and implementation of new and/or enhanced hardware and software in support of new information systems requirements. (3) Creates and maintains the technological infrastructure necessary to support all desktops, laptops, servers, databases and applications for all NIDCD employees. (4) Serves as liaison with vendor, contractor, other IC staff, CIT and HHS technical/support staff. (5) Provides IT training and software/hardware technical desk-side support for all NIDCD staff. (6) Coordinates the NIDCD CPIC and EPLC programs.

Science Policy and Planning Branch - HN31-27

(1) Produces special and recurring reports as needed by NIDCD and NIH management; (2) assists in the preparation and presentation of congressional testimony; (3) maintains liaison with the NIH Office of Science Policy; (4) coordinates the development of analytical planning and evaluation reports required by senior officials within the NIH, PHS, and DHHS; (5) provides support for the periodic development of a strategic plan that recognizes scientific areas of great opportunity and/or compelling need for additional research; (6) provides support for periodic re-evaluating of NIDCD practices and regarding the mechanisms used for peer review as well as support for research and research training; and (7) prepares reports on overall activities, specific program matters, and yearly reviews of research related to the Institute's implementation process.

Division of Intramural Research - HN32

(1) Plans and conducts the Institute's intramural basic and clinical research programs which encompass deafness and communication disorders; (2) ensures the optimal utilization of available resources in the attainment of Institute objectives; (3) evaluates research efforts and establishes division priorities; (4) integrates new research activities into the program structure; (5) collaborates with other Institute and NIH programs; and (6) maintains an awareness of national research efforts and provides advice to the Institute Director and staff regarding intramural research in scientific areas of interest to the Institute.

Section on Translational Research for Retinal and Macular Degeneration - HN32-3

1) Plans, conducts, and directs basic and clinical research in retinal and macular degeneration; 1) Studies the molecular genetics basis of these diseases, the clinical course of vision loss, and in developing ways to slow or arrest the progressive loss of vision from the disease; 3) Develops diagnostic molecular genetics testing to assist in clinical diagnosis and identification of genetic carriers; and 4) Provides training opportunities in physiology and molecular biology of genetic retinal and macular degeneration.

Section on Sensory Cell Development and Function - HN32-7

Conducts research focused towards understanding how local cellular signals such as calcium shape the development and normal physiological function of sensory cells; (2) utilizes microscopy, genetics, and pharmacology to characterize the function and development of sensory cells in real-time in an intact, in vivo system; (3) examines the fundamental properties of pre- and post-synaptic connections that govern the reliability, efficiency and development of intact sensory circuitry; (4) in the long term seeks to form a foundation of knowledge to create therapies that will allow the regeneration of damaged sensory cells.

Genomics and Computational Biology Core - HN32-8

(1) Provides genomic analysis support for NIDCD intramural investigators; (2) Maintains infrastructure for large- and small-scale sequencing analyses; (3) provides advice and training in designing genomics experiments and support in creating molecular biology reagents; (4) performs computational analyses of large-scale genomics experiments; and (5) serves as a focal point for integrating genomics databases related to inner ear function and other tissues relevant to the mission of the NIDCD.

Section of Neuronal Circuitry- HN32-9

Investigates the communication between neurons of the auditory system; (2) employs electrophysiology and optical techniques in *in vitro* preparations to study synaptic transmission between neurons; (3) integrates knowledge of neuronal synaptic inputs with electrical properties to determine the functional properties of neurons of the auditory system; (4) extends knowledge gained from *in vitro* brain and cochlea preparations to animal models including models of acoustic trauma; and (5) seeks to understand how the interplay between auditory neuronal pathways shapes acoustic perception in both the normal and damaged auditory system.

Voice, Speech, and Language Branch - HN324

(1) Conducts basic and clinical research on normal voice, speech and language functions; (2) investigates the causes, pathophysiology, diagnosis, treatment, prevention and rehabilitation of voice, speech and language disorders; and (3) conducts controlled, randomized clinical trials of promising new behavioral, pharmaco-therapeutic and surgical strategies for the benefit of those affected with voice, speech or language disorders.

Laboratory of Molecular Biology - HN325

(1) Conducts basic research aimed at identifying and characterizing the genes which are important to the structure or function of the inner ear, as well as signal transduction emanating from the olfactory neuroepithelium and gustatory epithelium; (2) identifies and characterizes the molecular components of the effector systems in the auditory periphery, olfactory neuroepithelium, and gustatory epithelium; and (3) utilizes techniques of molecular biology, biochemistry, immunology, pharmacology and physiology to determine the molecular bases of receptor-mediated signal transduction.

Section on Sensory Cell Regeneration and Development - HN3255

(1) Characterize and identify genes that are expressed in the normal patterning of sensory organs in the inner ear using RT-PCR and in situ hybridization techniques; (2) examine the roles of identified genes in sensory organ formation using retroviral vectors as a method of gene transfer; (3) characterize the structural bases for the tonotypical organization of the cochlea at a molecular level; (4) identify molecules which play a role in the normal formation and regeneration of sensory cells; and (5) use replication incompetent retroviral vectors as a lineage tracer to understand cochlea differentiation.

Laboratory of Molecular Genetics - HN326

The research objectives of the Laboratory of Molecular Genetics are to determine the map locations and functions of genes responsible for human hearing and vestibular impairments and other communication disorders.

Section on Human Genetics - HN3264

Map and clone genes responsible for congenital and delayed onset hearing impairment and other communication disorders. Ascertain families and isolated populations to facilitate gene mapping and screening for mutations.

Laboratory of Cellular Biology - HN327

(1) Carries out research directed toward identifying and characterizing biophysical processes of cellular motility within the inner ear and the mechanoelectric transduction process; and (2) examines cellular and molecular mechanisms associated with sensory cell ontogeny and regeneration after damage due to noise, ototoxic drugs, or trauma.

Section on Auditory Mechanics - HN3275

Seeks to understand the basic mechanisms relating to frequency discrimination of pure tones and processing of complex sounds in the cochlea. Advanced modeling techniques are used interactively with biophysical and structural data obtained from tissues in the organ of Corti to study cochlear physical phenomena relating to the transduction of sound to auditory nerve impulses. Special emphasis is directed toward developing techniques to integrate subcellular, cellular and macroscopic interactions.

Head and Neck Surgery Branch - HN32A

(1) Conducts basic and clinical research on the causes, prevention, diagnosis, treatment and rehabilitation of impairment of functions housed in the head and neck due to congenital anomalies, trauma and neoplasia; and (2) conducts clinical trials of promising new therapeutic strategies.

Tumor Biology Section - HN32A4

Conducts research on surgical, medical and biologic therapies of neoplasms affecting the head and neck region, particularly the upper aerodigestive tract, which have an impact on aspects of human communication. The section plans and conducts: (1) clinical investigations of promising diagnostic procedures and therapies, combining surgical, radiation, biologic and chemotherapies; (2) basic and applied research on the molecular and cellular mechanisms of oncogenesis and tumor metastases of neoplasms of the head and neck region which affect human communication, including immune, genetic and endocrine alterations, and cell-cell, cell-extracellular matrix interactions; (3) rehabilitation of communication through surgery and assistive devices and (4) plans and develops new treatment approaches for neoplasms of the head and neck, using genetic and immune mechanisms.

Otolaryngology Branch - HN32B

(1) Conducts basic and clinical research on the causes, natural history, pathogenesis, prevention, diagnosis, treatment and rehabilitation of disorders affecting the development, structure or function of the ears, nose, or throat and associated structures due to genetic and nongenetic etiologic factors; (2) conducts controlled, randomized clinical trials of promising new therapeutic strategies including operations; (3) collaborates in multidisciplinary studies designed to characterize normal and disordered auditory or vestibular function in humans and animal models; and (4) monitors auditory function and safety during clinical trials and experimental treatments and diagnostic procedures.

Molecular Biology and Genetics Section - HN32B2

(1) Identifies and characterizes genetic causes and molecular pathogenetic mechanisms of hearing, vestibular, voice, speech or language disorders; and (2) studies the structure, function and expression of normal and mutated genes and proteins in humans and animal models.

Laboratory of Cell Structure and Dynamics - HN32C

(1) Seeks an integrated molecular understanding of the architecture, dynamics, function, and renewal of specialized cellular structures--in particular those underlying mechanosensory function of auditory and vestibular sensory cells; and (2) develops a framework for understanding the different forms of loss of mechanosensory function and to explore opportunities for preventive and therapeutic interventions.

Section on Structural Cell Biology - HN32C2

Analyzes protein-protein interactions at the molecular level using cryotechniques and ultra-high energy electron scanning tunneling and atomic force microscopy, and other advanced imaging modalities; (2) explores and develops new, state-of-the-art technology to improve the techniques of structural biology, with a specific focus on imaging technology; (3) performs immunohistochemical localization studies of regulatory and structural proteins in sensory cells from the auditory and vestibular organs, at both the light and ultrastructural level of resolution; and (4) collaborates with other NIDCD and NIH investigators to advance new discoveries in the area of structural biology, with a particular focus on new advances in imaging capabilities.

Laboratory of Cochlear Development - HN32D

- (1) Identify the molecular and genetic factors that regulate the development of the peripheral mammalian auditory system;
- (2) Identify the molecular and genetic factors that specify the formation and patterning of the different cell types that comprise each aspect of the cochlea; and
- (3) Model different cell types interactions to form an elaborate auditory detector.

Section on Developmental Neuroscience - HN32D2

(1) Identify the cellular, molecular and genetic factors that contribute to the development of the sensory epithelium of the mammalian cochlea (also called the organ of Corti). (2) Identify candidate-signaling molecules that might play a role in the development of the organ of Corti; and (3) Determine the effects of each candidate molecule using a combination of in vivo and in vitro techniques.

Laboratory of Communication Disorders - HN32E

1) Employs genetic studies to identify variant genes that cause stuttering and other human communication disorders; 2) carries out biochemical and cell biological studies to understand the effects of genetic mutations associated with communication disorders; 3) undertakes clinical medical evaluations to detect other pathologies that may be caused by such genetic mutations; 4) uses neuroscience and neuroimaging methods to understand the neural correlates of mutations associated with communication disorders; 5) studies animal models of communication disorders that incorporate information from human genetic studies; and 6) works closely with other Laboratories in the DIR and elsewhere to maximize the benefits of the scientific expertise, funds, and equipment available within the NIDCD and elsewhere.

Section on Genetics of Communication Disorders - HN32E2

1) Performs genetic studies of disorders that affect human communication, including speech disorders and disorders of the sense of taste using various methodologies including twin studies, genetic linkage studies in families, population based association studies, gene evaluation and large-scale DNA sequence comparison, bioinformatics, and gene expression studies.

Intramural Research Administration Branch - HN32F

(1) Advises the Scientific Director and other key officials on managerial and administrative matters affecting the planning and execution of DIR programs; (2) interprets, analyzes, and implements NIH and Departmental administrative and management directives; (3) develops policies on administrative management and prepares and issues procedures and guidelines for implementation of these policies; (4) plans, directs, coordinates, and provides comprehensive administrative and management support services for the Division of Intramural Research; (5) provides technical and advisory services in financial management, human resources, facility management, travel services, and other administrative functions, as necessary, to ensure the efficient and effective implementation and operation of programs; (6) plans, directs and coordinates acquisition activities for the intramural staff using efficient, timely and appropriate methods; and (7) plans, directs, and coordinates logistical support for the DIR including management of DIR property activities.

Office of the Clinical Director- HN32G

Provides administrative oversight of NIDCD clinical activities for the intramural program; (2) plans, supports, coordinates, and monitors NIDCD clinical research program activities encompassing the broad spectrum of diseases affecting hearing, balance, smell, taste, voice, speech and language, ensuring maximum utilization of available resources in attainment of Institute objectives; (3) supervises medical staff appointments, the Otolaryngology Surgeon Scientist Program, and other clinical training programs; (4) plans and directs programs.

LABORATORY OF HEARING BIOLOGY AND THERAPEUTICS – HN32H

(1) Conducts basic and translational research on sensory hair cells and supporting cells in the cochlea and vestibular system; (2) identifies the cellular and molecular mechanisms that regulate cell survival, homeostasis, and death during normal function and under stress; (3) studies intra and intercellular signal transduction in hair cells and supporting cells; (4) performs preclinical studies aimed at developing therapies for hearing loss and vestibular disorders; (5) conducts clinical studies in humans with the goal of preventing or reversing hearing loss.

SECTION ON SENSORY CELL BIOLOGY – HN32H2

1) Conducts basic and translational research on sensory hair cells and supporting cells in the cochlea and vestibular system; (2) identifies the cellular and molecular mechanisms that regulate cell survival, homeostasis, and death during normal function and under stress; (3) studies intra- and intercellular signal transduction in hair cells and supporting cells; and (4) performs translational studies aimed at preventing or reversing hearing loss and vestibular disorders in humans.

Otolaryngology Surgeon Scientist Program- HN32G2

Provides support for surgeon-scientists to perform clinical translational research within the NIDCD Intramural Research Program mission emphasis on hearing, balance, voice, speech and language; (2) advances NIDCD's programmatic priority to promote biomedical and clinical research training and career development; (3) supports translation of discoveries made through basic research within the NIDCD and other institutes in the NIH intramural program.

Division of Extramural Activities - HN33

(1) Plans and directs an integrated program of scientific peer review and administrative oversight for grants supporting research and research training in the normal processes and diseases/disorders of hearing, balance, smell, taste, voice, speech and language to insure maximum utilization of available resources in attainment of Institute objectives; (2) directs the Institute's concept clearance process for potential initiatives; (3) manages the Institute's Advisory Council and relates processes; (4) directs additional research-related programs such as Committee Management, Certificates of Confidentiality, and Freedom of Information; (5) prepares reports and analyses to assist Institute staff and advisory groups in carrying out their responsibilities; and, (6) advises on, develops, and coordinates the Institute's research grant/contract review and management policies.

Scientific Review Branch - HN332

(1) Directs and carries out the scientific and technical merit review of a wide array of grant applications and contract proposals for the spectrum of science supported by NIDCD (including clinical research centers, core centers, research training, career development, and special initiatives); (2) responsible for the management of chartered review committees, and the establishment of others as required, including Special Emphasis Panel (SEP) review committees; (3) identifies and selects experts to serve on review committees; (4) provides Scientific Review Administrators and support staff to the technical review committees; (5) organizes and coordinates scientific and technical merit reviews.

Grants Management Branch - HN333

(1) Advises the Director, Division of Extramural Administration, in the planning, development, implementation, and evaluation of Institute policies, procedures, and guidelines in the business management of grant programs; (2) collaborates with NIDCD scientific staff to provide technical advice and consultation necessary to fulfill the objectives of the grant programs; (3) coordinates the processing of grant applications leading to award; (4) maintains project files and records; and (5) provides assistance to individual recipients of grant awards and to grantee institutional business officials in the interpretation and application of DHHS, PHS, NIH, and NIDCD policies and procedures.

Division of Scientific Programs - HN35

(1) Plans and directs a program of grant and contract support for research and research training in the normal processes and diseases and disorders of hearing, balance, smell, taste, voice, speech and language to insure maximum utilization of available resources in attainment of Institutes objectives; (2) assesses needs for research, research training, clinical trials and epidemiologic studies within program areas; (3) establishes program priorities and recommends funding levels for programs to be supported by grants; (4) sets priorities and funding levels for research to be supported by contracts; (5) provides input to Director, NIDCD in planning, development, implementation and evaluation of ongoing and needed research in the mission areas of the Institute; (6) prepares reports and analyses to assist Institute staff and advisory groups in carrying out their responsibilities; (7) consults with voluntary health organizations and with professional associations in identifying research needs and developing programs to meet them; (8) advises on, develops, and coordinates the Institute's research grant, contract, and training program policies.